

## UDC SERIES PwrKart™ 270VDC GROUND POWER UNITS



TOWABLE CONFIGURATION  
(Shown with standard digital panel)

### STANDARD FEATURES:

- IP55
- Certified to UL 1012
- 3 Phase, 380-480 VAC input
- Indoor/Outdoor (Hangar/Ramp) Use
- ≤ 5% Input Current Distortion at Max Load
- Automatic Input Line Monitoring
- Advanced Integrated Display (AID™) Console
- 8000 Event Log / Diagnostics
- TCP/IP/Ethernet interface (Modbus)
- Internal Communication Ports - "USB, RJ45 (ETHERNET), RS485 (Modbus), & RS232
- External Communication Ports – RJ45 (ETHERNET) & USB
- 10% Power Regulation
- Emergency Power "OFF" Switch
- 18-Inch Hazard Area Clearance
- I/O Voltage and Current Monitoring
- Input Frequency Monitoring
- Elapsed Time Meter
- Front Panel Voltage Adjust
- Front Panel Summary Fault Indicators
- Input & Output Cable Rack
- Input High Voltage Transient Protection
- Multi Language (Romanization) Display - English, French, German, Italian, Portuguese, Russian and Spanish, Others - Specify

This product was manufactured in a plant whose quality management system is registered to ISO 9001:2008.



### APPLICATION:

Since its beginning in 1960, Unitron has specialized in the design and development of reliable solid-state power systems for military applications. Through an innovative design, Built-In Test Equipment (BITE) and modular construction, Unitron products assure maximum power availability and minimal repair time for the latest military aircraft including the F-22A Raptor and the JSF F-35A.

The PwrKart Series includes lightweight 115/200VAC, 400Hz, 28VDC, and 270VDC mobile converters for aircraft ground power applications in the hangar or ramp area. The PwrKart Series includes 115/200VAC, 400Hz, 28VDC, and 270VDC towable converters for aircraft applications in the ramp or hangar area. Output power ratings for the 270VDC towable PwrKart range from 30kW to 72kW, and are available in single or dual output configurations.

In addition to towable GPUs, Unitron offers 400Hz, 28VDC, 270VDC and combination AC/DC units in mobile, fixed, and bridge-mounted configurations.

### OPTIONS:

- Alternate Input Voltages Available (Specify)
- Various Convenience Outlets (Specify Voltage and Frequency)
- 50 or 100 foot Input Power Cable (Pigtail)
- Side Cable Hanger(s) or Top Cable Storage Rack
- DC Output Power Cable with Plug (Available in 35, 63, or 83 ft. lengths)
- 400Hz Output (Combination Units)
- Output Universal Aircraft Safety Interlock Circuit Disconnect (Single or Dual)
- Output Safety Disconnect
- Alternate Mounting Configurations Available
- Indoor Touch Screen Panel
- Bench Top Voltage Adjust
- Lockable Front Door
- Custom Paint & Decals (Standard Color - White)
- CSA Certified
- CE Mark Certified

### MECHANICAL SPECIFICATIONS:

Size:	See Figure 1
Weight:	36kW = 1,484lbs. (673kg.) 48kW = 1,570lbs. (712kg.) 60kW = 1,647lbs. (747kg.) 72kW = 1,735lbs. (787kg.)
Enclosure:	NEMA 3RX Corrosion Resistant
Cooling:	Forced Convection

### SPECIFICATIONS / STANDARDS:

2ZEU00004, Rev-0007	F-35 Ground Electrical Power Interface Document
EN 61000-6-2 and -4*	Electromagnetic Compatibility Immunity and Emission Standards for Industrial Environments
2006/95/EC*	Low Voltage Directive
ISO 461-1/2	Aircraft - Connectors for Ground Electrical Supplies
ISO 1540	Characteristics of aircraft electrical system
ISO 6858	Aircraft ground support electrical supplies
SAE ARP 5015	Ground equipment 400Hz ground power performance requirement
MIL-STD-704F	Aircraft electric power characteristics
MIL-STD-1472	Human Engineering Design Criteria
*Defined Basis of CE Mark Certification	

## GENERAL SPECIFICATIONS

### AC INPUT:

Input Current Distortion	≤ 5%, typically 3%
Voltage	380 - 480 V, +10%, -15%, 3Ø, 3 or 4 wire plus ground (Alternate Voltages Available)
Frequency	50 - 60 Hz ± 10%
Phase Rotation	Any
Protection	Over/undervoltage, loss of phase, over current, short circuit. Voltage transient protection IAW IEEE C62.41.1, Location Cat. B/C
Inrush Current	No greater than 100% of full load current

### 28VDC OUTPUT:

Overload	100% continuous; 150% for 5 sec; 200% for 1 sec; 250% for 50 msec
Current Rating	15 Amps continuous
Voltage	28 VDC, 2 wire, grounded
Voltage Regulation	± 0.5%
Voltage Adjust	28 VDC ± 10%
Output Ripple Voltage	150 mV pk to pk
Protection	Overload, short circuit, overvoltage

### ENVIRONMENTAL:

Acoustical Noise	< 65 dBA maximum at 5 feet (1.5m)
Temperature Range	-40°C to +55°C
Relative Humidity	10 - 95%, Non-Condensing
Ingress of Water	Type 3RX, IP55

### 270VDC OUTPUT:

Power Rating	36, 48, 60, or 72 kW
Overload	100% continuous; 150% for 5 sec; 200% for 1 sec; 250% for 50 msec;
Pulse Loads	IAW LMCO Drawing No. 2ZEU00004, Rev-0007
Voltage	270 VDC, 2 wire, grounded negative
Voltage Regulation	
<ul style="list-style-type: none"> <li>■ 100% continuous rated load and ± 10% input voltage</li> <li>■ No load to rated load with nominal input voltage</li> </ul>	± 0.5%
Voltage Adjust	270 VDC ± 10%
Output Ripple Voltage	3.0 volts pk to pk
Transient Response	(25% load changes) IAW MIL-STD-704F
Protection	Overload, short circuit, overvoltage and safety disconnect
Power Regulation	10%

### ENERGY FACTORS:

Efficiency	93% typical at full load; 91% typical at half load; varies depending on configuration
Energy Efficiency Ratio	20.0 typical

